



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

100

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,223	09/19/2001	Simon Riches	1509-218	8329
22879	7590	02/17/2006	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			CHAI, LONGBIT	
		ART UNIT	PAPER NUMBER	
		2131		

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/955,223	RICHES ET AL.
	Examiner Longbit Chai	Art Unit 2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 January 2006.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 90-123 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 90-123 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 19 September 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

1. Claims 1 – 89 have been canceled; claims 90 – 94, 101 – 105 and 110 – 114 have been amended; and new claims 120 – 123 have been added in an amendment filed on 1/18/2006. The amendment filed have been entered and made of record. Presently, pending claims are 90 – 123.

Response to Arguments

2. Applicant's arguments with respect to instant claims have been fully considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A person shall be entitled to a patent unless –

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 90, 92, 94 – 97, 101, 103, 105 – 107, 110, 112 and 114 – 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston et al. (U.S. Patent 5448639).

As per claim 90, 101 and 110, Johnston teaches a method of recording data during successive data recording sessions (Johnston: Column 9 Line 25 – 40: a session is merely interpreted as a set / group of data) on a data storage tape of a tape cartridge loaded in a tape drive, the sessions occurring at different times, the method comprising recording data in each recording session by:

issuing a reposition command to the tape drive to cause the data recording session to start after the tape has been repositioned (Johnston: Column 9 Line 14 – 15, Column 8 Line 40 – 44 and Column 8 Line 54 – 62: Space / Locate are the position command associated with the RD/WR data blocks);

after the session has started, writing a data set to the tape (Johnston: Column 9 Line 26 – 27, Column 8 Line 40 – 44 and Column 8 Line 54 – 62);

after the data set has been written to the tape, issuing a further reposition command to the tape drive so the tape is again repositioned (Johnston: Column 9 Line 26 – 40, Column 10 Line 51 – 59 and Column 9 Line 14 – 15: the Write command can be issued multiple times and on the subsequent Write commands issued);

creating a code representative of the data in the data set that has been written in the recording session between the, reposition commands (Johnston: Column 5 Line 44 – 54, Column 10 Line 48 – 55 and Column 9 Line 27: (a) Applicant argues: “Johnston discloses generating codes representative of data errors, rather than a code representative of data”. Examiner disagrees because ECC / checksum are indeed the data signature that can uniquely represent the correctness of a set (or

group) of data (b) checksum is calculated to verify that the track has been properly written into the track and the data is always written one group at a time and thereby Johnston teaches the code created after each data recording session representing the recorded data and the session during which the data was recorded to meet the claim language);

writing the code into a memory incorporated within the tape cartridges (Johnston: Column 11 Line 18 – 21); incrementing a code counter indicating a count of the number of codes written into the memory; and writing the count into a count field of the memory (Johnston: Column 11 Line 18 – 21 and Column 11 Line 18 – 19: It would have been obvious to a person with ordinary skill in the art at the time the invention was made to recognize that the unique sequential block ID assigned to each of the data set represented by the ECC code, as taught by Johnston, is equivalent to incrementing a code counter indicating a count of the ECC codes written into the memory.

Therefore, the rationale of this equivalency is that the sequential block ID is the most commonly used (and simplified) block ID when assigned to a group of multiple data blocks / sets, which indeed serves as a sequential counter of the data blocks).

As per claim 91, 102 and 111, Johnston teaches the code is a signature (Johnston: Column 10 Line 52 – 53: ECC / checksum are indeed the data signature that can uniquely represent the correctness of a set (or group) of data).

As per claim 92, 103 and 112, Johnston further teaches said the code is a checksum or a cyclic redundancy check (CRC) (Johnston: Column 10 Line 52).

As per claim 94, 105 and 114, Johnston further teaches the memory is a dedicated area of the tape (Johnston: Column 11 Line 18 – 21).

As per claim 95, 106 and 115, Johnston further teaches reading back a data set from the tape; creating a further code representative of the data in the data set read back from the tape; comparing the two codes; and confirming the data set as-valid only if the two codes agree (Johnston: Column 10 Line 48 – 55 and Column 9 Line 27: Johnston teaches ECC checksum is calculated to verify that the track has been properly written into the track and the data is always written one group at a time and thereby Johnston teaches the code created after each data recording session representing the recorded data and the session during which the data was recorded to meet the claim language).

As per claim 96, Johnston further teaches the comparing and confirming steps are carried out by a controlling software application (Johnston: Column 3 Line 19 – 26 and Column 10 Line 48 – 55: computer peripheral application software of data tapes).

As per claim 97, 107 and 116, Johnston teaches at least one of the comparing and confirming steps is carried out by an external reader which is able to at least one of

access and display information recorded in the memory (Johnston: Figure 1 Element 230 // 205 and Column 5 Line 46 – 54: the external reader is interpreted as the computer processor system which is external to the tape cartridge as shown in Figure 1 Element 230 // 205. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)).

4. Claims 93, 104 and 113 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston et al. (Patent Number: 5287478), in view of Maekawa et al. (Patent Number: 6160679).

As per claim 93, 104 and 113, Johnston does not disclose expressly the memory is a cartridge memory.

Maekawa teaches the memory is a cartridge memory (Maekawa: see for example, Column 3 Line 43 – 49).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Maekawa within the system of Johnston because Maekawa teaches providing an auxiliary memory associated with the tape cartridge so that the problems of limitation in size as well as the security concerns of the discrimination information can be resolved (Maekawa: see for example, Column 3 Line 14 – 52).

5. Claims 98 – 100, 108 – 109, 117 – 118 and 120 – 123 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston et al. (Patent Number: 5287478), in view of Shnelvar (Patent Number: 6374266).

As per claim 98, 108 and 117, Johnston does not disclose expressly checking whether the number of codes written into the memory has reached a predetermined number and, if so, reporting the tape as read only.

Shnelvar teaches checking whether the number of codes written into the memory has reached a predetermined number and, if so, reporting the tape as read only (Shnelvar: see for example, Column 6 Line 17 – 21, Column 7 Line 34 – 40 and Column 8 Line 29 – 35 & Figure 8: Shnelvar teaches the writing process continues to be repeated until there are no space (i.e. reaching a predetermined number of codes that can be stored before overflow) in the buffer to be processed – i.e. no more “writing” is allowed. which is equivalent to “Read Only”, thereafter).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Shnelvar within the system of Johnston because (a) Johnston teach providing a more reliable DDS data tape system by using an unique data signature / ECC during writing / reading of data to enhance data integrity (Johnston: Column 3 Line 25 – 26 and Column 5 Line 45 – 55) and (b) Shnelvar teaches using an unique data signature (such as hash or checksum) to further improve capacity management when storing the system’s program and data files (Shnelvar: see for example, Column 1 Line 30 – 39).

As per claim 99, 109 and 118, Johnston as modified teaches said predetermined number of entries is 16 (Shnelvar: see for example, Figure 3 Element 60: Shnelvar does not disclose expressly predetermined number of entries is 16. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Shnelvar to accommodate predetermined number of entries is 16 because Shnelvar teaches using a table to store the code (Shnelvar: see for example, Figure 3 Element 60).

As per claim 100, Johnston as modified teaches comparing the codes and number of entries against information held on a secure database (Shnelvar: see for example, Column 5 Line 35 – 60, Column 6 Line 17 – 21 & Johnston: Column 10 Line 48 – 55).

As per claim 120, Johnston as modified teaches the method is performed to backup data of a computer to the data storage tape so that the data set written to the tape is the set of data of the computer being backed up and the created code is indicative of the backed up data (Shnelvar: Column 1 Line 30 – 38 and Column 5 Line 51 – 52).

As per claim 121 and 122, Johnston as modified teaches writing into different portions of the area, different codes corresponding with each different data set written into the tape as a result of writing the different data sets into the tape; performing a

restoration or validation operation of a data set on a tape of a tape cartridge loaded in the drive; the restoration or validation operation including: (a) causing the tape drive to comply with a request to report the code of a data set required to be restored or validated by reading the requested code from the portion of the memory area where the code for the data set required to be restored or validated is located; (b) positioned the tape to the start of the data set to be restored or validated; (c) then reading the data set to be restored or validated back from the tape; (d) generating a new code corresponding with the data set read during (c), the new code being generated externally of the memory; and (e) after completion of step (c), comparing the new code generated during (d) with the code read during (a) to determine if the data set read during (c) is valid or invalid (Johnston: Column 8 Line 40 – Column 9 Line 40 and Column 10 Line 46 – 64) & (Shnelvar: Figure 3 & Column 5 Line 35 – Column 6 Line 46 and Column 7 Line 12 – Column 8 Line 35: a session is merely interpreted as a set / group of data) on a data storage tape).

As per claim 123, Johnston as modified teaches the tape drive includes the processor arrangement for (i) generating the new code (Shnelvar: Column 6 Line 18 – 21).

6. Claim 119 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston et al. (Patent Number: 5287478), in view of Ishiguro (Patent Number: 4788641).

As per claim 119, Johnston does not disclose expressly the processor software includes an erase command.

Ishiguro teaches the processor software includes an erase command (Ishiguro: see for example, Column 3 Line 60 – 61).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Ishiguro within the system of Johnston because Ishiguro teaches providing a method that a plurality of commands and data can be stored and pre-fetched in a magnetic tape system (Ishiguro: see for example, Column 1 Line 10 – 14).

Accordingly, Johnston as modified teaches the processor software includes an erase command that erases both the data on the tape and the contents of the memory (Ishiguro: Column 3 Line 60 – 61; Johnston: Column 11 Line 18 – 21: the Erase command would be like Write command that applies to both data and subcode (i.e. checksum) written into the tape and the memory space of the track, respectively).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Longbit Chai whose telephone number is 571-272-3788. The examiner can normally be reached on Monday-Friday 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Longbit Chai
Examiner
Art Unit 2131


LBC
AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100